

4/17/2013



**RELIABILITY MONITOR REPORT
FOR**

San Antonio 0.5 μ m Silicon Gate CMOS (E35)

MAXIM INTEGRATED

**160 RIO ROBLES
SAN JOSE, CA 95134**

**This Report was prepared by
MAXIM INTEGRATED Reliability Engineering**

Summary:

The data in the tables that follow was generated as the result of an on-going Process Reliability Monitor. The specific products in this process monitor are:

DS2431	DS3231M	DS3232M	MAX31722	MAX7456EUI+
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The calculated failure rate for devices using this process is:

FAILURE RATE: MTTF (YRS): 7423 QUANTITY: 256 FAILS: 2 FITS: 15.4

The parameters used to calculate this failure rate are as follows:

Cf: 60% Ea: 0.7 Tu: 25 °C

The reliability data follows and in this section is the detailed reliability data by stress. The reliability data section includes the latest data available. This report covers data between 4/1/2012 and 3/31/2013 .

Process Information:

Process Description: San Antonio 0.5µm Silicon Gate CMOS (E35)

OPERATING LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	LOT NO.
HIGH TEMP OP LIFE	1150	DS3232M	125C, 4.7 VOLTS (PSA)	192 HRS	80	0	ZX272110AB-NPI
HIGH TEMP OP LIFE	1221	DS3231M	125C, 5.5 VOLTS	1000 HRS	80	0	FX278007AAA
HIGH TEMP OP LIFE	1223	MAX7456EUI+	135°C	1000 HRS	48	1	TXI0FU023Q2
HIGH TEMP OP LIFE	1223	MAX7456EUI+	135°C	500 HRS	48	1	TXI0FU023Q3
Total:						2	

STORAGE LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	LOT NO.
STORAGE LIFE	1210	MAX31722	150°C	1000 HRS	50	0	FK148849DD
STORAGE LIFE	1221	DS3231M	150°C	1000 HRS	80	0	FX278007AAA
STORAGE LIFE	1223	MAX7456EUI+	150°C	1000 HRS	78	0	TXI0FU023Q1
STORAGE LIFE	1223	MAX7456EUI+	150°C	1000 HRS	80	0	TXI0FU023Q2
STORAGE LIFE	1223	MAX7456EUI+	150°C	1000 HRS	80	0	TXI0FU023Q3
Total:						0	

TEMPERATURE CYCLE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	LOT NO.
TEMP CYCLE, 5' RAMP, 10' DWELL	1210	MAX31722	-55C TO 125C	1000 CYS	77	0	FK148849DD
TEMP CYCLE, 5' RAMP, 10' DWELL	1221	DS3231M	-55C TO 125C	1000 CYS	80	0	FX278007AAA
TEMP CYCLE, 5' RAMP, 10' DWELL	1223	MAX7456EUI+	-65C TO 150C	1000 CYS	80	0	TXI0FU023Q1

TEMP CYCLE, 5' RAMP, 10' DWELL	1223	MAX7456EUI+	-65C TO 150C	1000	CYS	80	0	TXI0FU023Q2
TEMP CYCLE, 5' RAMP, 10' DWELL	1223	MAX7456EUI+	-65C TO 150C	1000	CYS	80	0	TXI0FU023Q3
Total:							0	

TEMPERATURE HUMIDITY BIAS

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	LOT NO.	
HAST	1210	MAX31722	130C, 85%R.H., 3.7V	96	HRS	79	0	FK148849DD
HAST	1221	DS3231M	130C, 85%R.H., 5.5V	96	HRS	80	0	FX278007AAA
Total:							0	

UNBIASED MOISTURE RESISTANCE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	LOT NO.	
HAST, NO BIAS	1110	DS2431	130C, 85% R.H.	96	HRS	80	0	FH163875AC
HAST, NO BIAS	1210	MAX31722	130C, 85% R.H.	96	HRS	77	0	FK148849DD
MOISTURE SOAK	1223	MAX7456EUI+	130C, 85% R.H.	100	HRS	80	0	TXI0FU023Q1
MOISTURE SOAK	1223	MAX7456EUI+	130C, 85% R.H.	100	HRS	80	0	TXI0FU023Q2
MOISTURE SOAK	1223	MAX7456EUI+	130C, 85% R.H.	100	HRS	80	0	TXI0FU023Q3
Total:							0	

FAILURE RATE: MTTF (YRS): 7423 QUANTITY: 256 FAILS: 2 FITS: 15.4